

Pregrinding carbide gear hob (for profiling)

A12-030

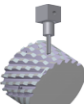
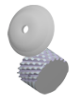
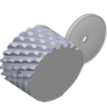


Manufacturing carbide gear hobs out of solid blank requires some preliminary works. These are in particular the gashes (flutes) and profile roughing (pregrinding).

The gashes are ground out of cylindrical blank using an angled 1V1 wheel. The tooth profile can be preground with 14EE1 wheel and an angle which is most suitable to the profile form.

The given example is a module 1.0 carbide hob with Ø 24mm, 12 straight gashes and 43mm cutting length.

Suitable machines for this works are 5-axis CNC grinders GEMINI DMR, CORVUS GDS, NORMA CFG, ARIES 5

1. Cycletime for Production

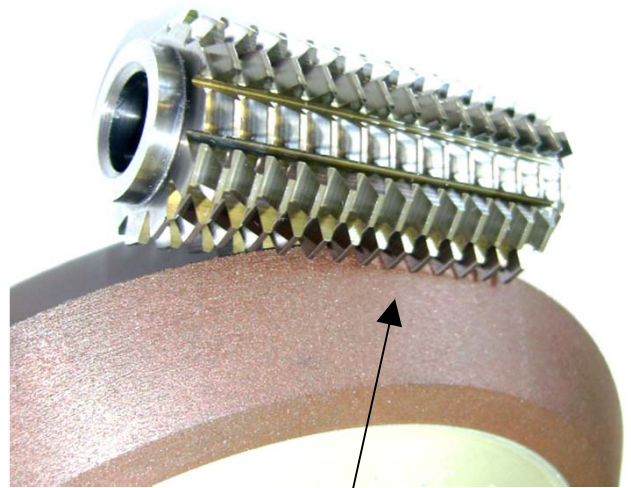
Workpiece: Diameter 24 mm Material CARBIDE			
Operations			
Feed [mm/Min]	2000	60	100
Infeed / pass [mm]		1.5	1.0
Total infeed [mm]		3.0	2.0
Used wheels		 1	 2
Cycle time [min]	1	24	30
Total cycle time	0 h 55 min		

The cycle times are indicative. Material to be ground, grinding wheels and coolants can influence the cycle times considerably.

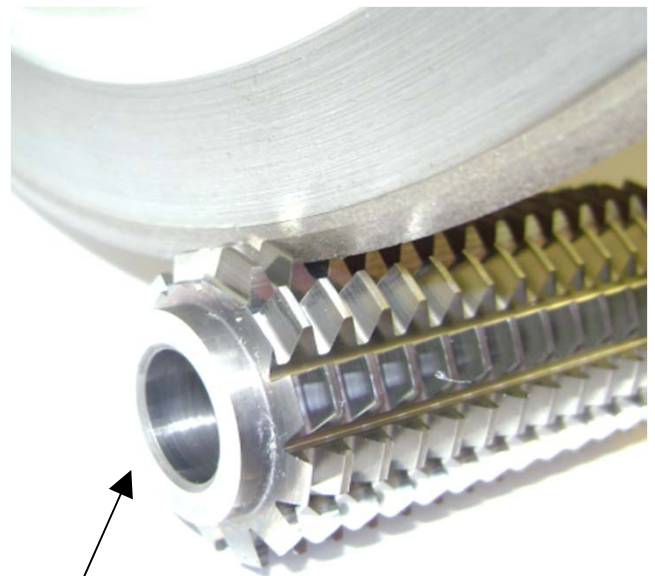
2. Used Grinding Wheels

- 1: 1V1 Ø125 45° D64
- 2: 14EE1 Ø200 40° D76

Profile roughing



Gashing



3. Machine and Software Requirements

Machines: 5 axes CNC grinders

Control: Fanuc 31i

Accessories:

Responsible engineer: SIW, 04.11.09

Coolant: Synthetic Oil, pressure 6 bar

Software: Quinto 5

www.schneeberger.ch

J. SCHNEEBERGER Maschinen AG 4914 Roggwil Switzerland
Subsidiaries in: France, Deutschland, Italia, United States, China